

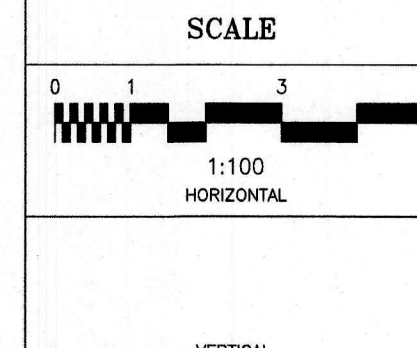
- LEGEND**
- PROPOSED ELEVATION
  - EXISTING ELEVATION
  - F.F. PROPOSED TOP OF FIRST GROUND FLOOR ELEVATION
  - T.O.F. PROPOSED TOP OF CONCRETE FOUNDATION ELEVATION
  - U.S.F. PROPOSED UNDERSIDE OF CONCRETE FOOTING ELEVATION
  - D/W PROPOSED DRIVEWAY
  - EXISTING COMBINED SEWER
  - EXISTING WATERMAIN
  - PROPOSED 150mm PVC SANITARY LATERAL SERVICE
  - PROPOSED 125mm/150mm PVC STORM LATERAL SERVICE
  - PROPOSED 100mm PVC DR-18 WATER SERVICE
  - EXISTING SEWER MANHOLE
  - EXISTING WATER VALVE & CHAMBER
  - EXISTING FIRE HYDRANT
  - EXISTING CATCH BASIN
  - EXISTING UTILITY POLE
  - EXISTING OVERHEAD WIRES
  - PROPOSED VALVE AND VALVE BOX (V&VB)
  - PROPOSED GENERAL DIRECTION OF LOT GRADING AND SURFACE FLOW
  - PROPOSED RETAINING WALL
  - PROPOSED TOP OF RETAINING WALL ELEVATION
  - PROPOSED BOTTOM OF RETAINING WALL ELEVATION
  - PROPOSED DEPRESSED CURB
  - PROPOSED ROOF DRAIN
  - PROPOSED WATER METER LOCATION
  - PROPOSED REMOTE WATER METER LOCATION
  - PROPOSED SANITARY HOLDING TANK(S) C/W DUPLEX PUMPS (SEE MECHANICAL ENGINEER'S DRAWINGS)
  - PROPOSED SIAMEN LOCATION
  - PROPOSED WEEPING TILE SUMP PIT LOCATION C/W SUMP PUMPS
  - PROPOSED HIGH RIDGE LINE
  - PROPOSED RIGID STYROFOAM INSULATION 50mm THICK (MIN.)
  - PROPOSED ASPHALT OVERLAY AREA CONSISTING OF: HL-3 HOT MIX 50mm THICK (MIN.)

PROFILE TABLE FOR 100mm WATER SERVICE			
STATION	ITEM DESCRIPTION	EXISTING/PROPOSED GROUND ELEVATION (m)	PROPOSED TOP OF WATER SERVICE (m)
0+00	CONNECTION TO EXISTING 400mm WATERMAIN	EX. ROAD ±66.85	EXISTING ±64.45
0+03	100mm WATER SERVICE CROSSING OVER EX. COMBINED SEWER PER CITY DETAIL W25.2	66.94	65.18
0+07	100mm WATER SERVICE AT BUILDING LINE	66.82	64.42
0+13.5	100mm WATER SERVICE AT BUILDING LINE	67.03	64.63

- NOTES:**
- EXISTING SERVICES AND UTILITIES SHOWN ON THIS DRAWING WERE TAKEN FROM THE BEST AVAILABLE RECORDS BUT ARE NOT COMPLETE. CONTRACTOR IS REQUESTED TO CHECK IN THE FIELD FOR LOCATION AND ELEVATION OF PIPES AND CHECK WITH AUTHORITIES AND UTILITIES TO HIS SATISFACTION BEFORE DIGGING.
  - CONTRACTOR IS ADVISED TO COLLECT INFORMATION ON SOIL CONDITIONS AS DEEMED NECESSARY.
  - SITING DETAILS FOR THE PROPOSED BUILDING WERE TAKEN FROM THE SITE PLAN (DWG. No. A-3 REV. 7 PROJECT No. 2017-18) PREPARED BY HAMEL DESIGN & PLANNING (DATED 2017-09-06). THE GROUND FLOOR, TOP OF FOUNDATION, LOWER LEVEL, SLAB, TOP OF CONCRETE FOOTING AND UNDERSIDE OF CONCRETE FOOTING ELEVATIONS WERE PROVIDED BY THE OWNER'S HOUSE DESIGNER. SEE ARCHITECTURAL "SECTION" DRAWING (DWG. No. A-8 REV. 7) FOR DETAILS.
  - EXISTING HORIZONTAL AND VERTICAL SURVEY DATA SHOWN ON THIS PLAN INCLUDING SITE BENCHMARK, GRADE ELEVATIONS, SEWER INVERT ELEVATIONS AND THE TOPOGRAPHICAL INFORMATION OF THE LOT WERE PROVIDED BY ANNIS, O'SULLIVAN, VOLLEBEKK LTD. AS SHOWN ON THEIR TOPOGRAPHICAL SURVEY PLAN (JOB No. 19678-17 DATED SEPTEMBER 28, 2017). T.L. MAK ENGINEERING CONSULTANTS LTD. DOES NOT TAKE ANY RESPONSIBILITY FOR THE SURVEY INFORMATION SHOWN HERE. FOR INFORMATION REGARDING THE EXISTING BOOTH STREET WATERMAIN AND COMBINED SEWER, THE CONTRACTOR SHALL REFER TO THE CITY OF OTTAWA AS-BUILT PLAN AND PROFILE ENTITLED "BOOTH STREET RECONSTRUCTION CLAUDETTE AVE. TO SOMERSET ST." DWG. No. R1698-6-7 SHEET 7 OF 20 REV. 6 CONTRACT No. 87-511.
  - ALL GRADING SHALL BE DONE TO THE SATISFACTION OF THE CITY OF OTTAWA. ALL GRADES SHOWN ARE METRIC. EXISTING AND PROPOSED GRADES SHOWN ON THIS DRAWING ARE BASED ON A BENCHMARK PROVIDED BY ANNIS, O'SULLIVAN, VOLLEBEKK LTD. AS SHOWN ON THEIR TOPOGRAPHICAL SURVEY PLAN.
  - PROPOSED SURFACE GRADE SHALL BE 7% (MAX.) WHERE THE GROUND DROPS OFF STEEPLY. TERRACE THE GROUND AT 3H TO 1V (MAX.) AS NECESSARY TO MEET THE CITY'S GRADING REQUIREMENTS.
  - THE PROPOSED 100mm DIAMETER WATER SERVICE SHALL BE PVC-CL-150 DR-18.
  - ALL WATERWORKS SHALL BE CONSTRUCTED TO CITY OF OTTAWA'S LATEST REVISED STANDARDS ON APPROVAL BY THE CITY.
  - CONSTRUCT ALL SANITARY AND STORM PIPES IN ACCORDANCE WITH CITY OF OTTAWA'S LATEST REVISED STANDARD OTHERWISE AS PER OPSS AND OPSD SPECIFICATIONS.
  - ALL WORKS CONSTRUCTED BY THE CONTRACTOR SHALL MEET CITY OF OTTAWA'S CURRENT ENGINEERING STANDARDS AND AS PER CITY'S REQUIREMENTS. ALL WATERMAIN SERVICE AND FITTINGS SHALL CONFORM TO APPROVED AWWA AND/OR CSA STANDARDS. WATER SERVICE AND WATERMAIN TRENCH DETAILS AS PER CITY W17 DETAIL.
  - THE CONTRACTOR SHALL CONSTRUCT AND ENSURE THAT THE 100mm WATER SERVICE ON THIS LOT SHALL HAVE A MINIMUM COVER OF 2.4m. THE WATER SERVICE PIPE MATERIAL SHALL BE PVC CL-150 DR-18 AND CONSTRUCTED IN ACCORDANCE WITH THE LATEST CITY OF OTTAWA STANDARDS.
  - THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS TO COMPLETE THE WORKS.
  - EXISTING LOCATION OF BOOTH STREET WATERMAIN AND COMBINED SEWER SHOWN ON THIS PLAN ARE APPROXIMATE. THE CONTRACTOR SHALL VERIFY IN THE FIELD TO CONFIRM ITS EXACT LOCATION PRIOR TO EXCAVATION. (SEE NOTE #25 ALSO).
  - WATER SERVICE CONNECTION ON BOOTH STREET SHALL BE DONE BY THE CITY. ALL CONNECTIONS AND OTHER RELATED WORKS TO WATERMAIN SHALL BE MADE BY THE CITY AND EXCAVATION, BACKFILLING AND REINSTATEMENTS BY CONTRACTOR. ALL WATERWORKS SHALL BE CARRIED OUT TO THE CITY'S SATISFACTION.
  - IF WATER SERVICE IS LESS THAN 2.4m FROM SEWER, MANHOLE OR CATCH BASIN, CONTRACTOR IS REQUESTED TO INSULATE BETWEEN THEM WITH S/M RIGID INSULATION (AS PER CITY DETAIL W23).
  - PIPE SIZES SHOWN ON THIS PLAN ARE METRIC.
  - PROPOSED SANITARY AND STORM SERVICE LATERALS SHALL BE PVC-DR-28 OR EQUIVALENT AND CONNECTION TO THE EXISTING SEWER SHALL BE AS PER CITY OF OTTAWA'S LATEST REVISED ENGINEERING STANDARDS. THE WORKS SHALL BE CARRIED OUT TO THE SATISFACTION OF THE CITY OF OTTAWA.
  - SANITARY AND STORM SEWER SERVICE BENDS AND RISERS USED MUST BE CONSTRUCTED TO THE CITY'S SATISFACTION.
  - PIPE MATERIAL AND INSTALLATION METHODS FOR THE TRENCHING AND OUTLET PIPING AT THE SLOPED AREAS WILL BE SUBJECT TO THE SOILS ENGINEER'S REVIEW AND APPROVAL PRIOR TO CONSTRUCTION DUE TO GEOTECHNICAL CONSIDERATIONS OF THIS SITE. CONSTRUCT CLAY DYKES AT LOCATIONS SPECIFIED IN THE CITY'S SATISFACTION.
  - BEDDING FOR SEWERS AND WATERMAIN INSTALLATION SHALL BE TYPE 'B' COMPACTED TO 95% DRY PROCTOR DENSITY. FOR THE SEWER LATERALS USE 300mm THICK APPROVED GRANULAR COVER MATERIAL COMPACT TO 90% DRY PROCTOR DENSITY. TRENCH BACKFILL WITH NATIVE MATERIAL AND COMPACT TO 90% DRY PROCTOR DENSITY MINIMUM. NO FROZEN MATERIALS ARE TO BE USED AS BACKFILL IN THE SERVING TRENCHES.
  - INSULATE THE BUILDING SERVICE LATERALS AND WATER SERVICE WITHIN THE ROAD RIGHT OF WAY WHERE GROUND COVER IS LESS THAN 2.4m FOR WATER SERVICE AND SEWER LATERALS OR LESS THAN 2.4m FOR SERVICE LATERALS AND WATER SERVICE FROM ANY EXISTING CATCH BASINS AND/OR MANHOLES.
  - WATER SERVICE, STORM SEWER LATERAL AND SANITARY SEWER LATERAL ARE THE RESPONSIBILITY OF THE OWNER'S PLUMBER FROM 1m OUTSIDE THE FOUNDATION WALL INTO THE PROPOSED BUILDING UNDER THE LATEST REVISION OF THE ONTARIO PLUMBING CODE.
  - WHERE FROST COVER FROM UNDERSIDE OF BUILDING CONCRETE FOOTING TO PROPOSED FINISHED GROUND ELEVATION IS LESS THAN 1.0m, IT IS RECOMMENDED THAT INSULATION (50mm THICK MINIMUM) BE INSTALLED AT THE BUILDING FOOTING AND FOUNDATION TO PROVIDE SUFFICIENT FROST COVER FOR THE FOUNDATION STRUCTURES. THE FOOTINGS WILL NEED TO BE REVIEWED FOR INSULATION BY THE OWNER'S SOILS ENGINEER. EXISTING INSULATION REQUIREMENTS SHALL BE AS PER HAMEL DESIGN & PLANNING'S INSULATION DETAILS SHOWN ON THEIR ARCHITECTURAL DRAWINGS AND CONFIRMED BY THE OWNER'S SITE SOILS ENGINEER.
  - IT IS RECOMMENDED THAT A CITY APPROVED BACKWATER VALVE BE INSTALLED AT THE NEW STORM LATERAL SERVICE AND A FULL PORT BACKWATER VALVE BE INSTALLED FOR THE NEW SANITARY LATERAL SERVICE AS PER CITY DETAIL S14, S14.1 AND S14.2.
  - DETAILS OF THE EXISTING SEWERS AND WATERMAIN SHOWN ON BOOTH STREET FROM THE CITY MAY NOT BE CURRENT. THE CONTRACTOR SHALL REFER TO THE CITY'S SEWER AND WATERMAIN DRAWINGS FOR DETAILS BEFORE DIGGING. THE CONTRACTOR IS ADVISED TO EXCAVATE AND INVESTIGATE THE SEWER ELEVATIONS IN FRONT OF THIS PROPERTY FIRST TO ENSURE THAT 1% (MIN.) PIPE SLOPE OF THE SANITARY AND STORM LATERALS CAN BE ACHIEVED USING THE PROPOSED UNDERSIDE OF CONCRETE FOOTING ELEVATION. IF 1% (MIN.) SLOPE IS NOT POSSIBLE FROM THE BUILDING TO THE SEWER, THEN THE CONTRACTOR SHOULD INFORM THE OWNER'S PROJECT MANAGER AND THE CITY ACCORDINGLY FOR FURTHER DIRECTION.
  - FOR DEVELOPMENT OF THIS SITE, THE CONTRACTOR MUST FIRST CONSTRUCT THE UNDERGROUND SANITARY, STORM AND WATER SERVICES FROM THE SEWER AND WATERMAIN TO THE PROPERTY. PRIOR TO BUILDING CONCRETE FOUNDATION POURING, THE CONTRACTOR SHALL VERIFY SEWER DEPTHS TO ENSURE THAT THE SEWER LATERALS CAN ACHIEVE A SLOPE OF 1% (MIN.) AND STILL BE BELOW PROPOSED UNDERSIDE OF CONCRETE FOOTING ELEVATION. IF THIS IS FOUND NOT POSSIBLE, THE CONTRACTOR SHALL ADVISE THE OWNER AND HIS OR HER PROJECT MANAGER TO REPORT THE FINDING IN ORDER TO ADJUST BUILDING FOUNDATION GRADES PRIOR TO CONCRETE POURING.
  - a) GIVEN THE ARCHITECTURAL REQUIREMENTS FOR THE PROPOSED BUILDING, THE UNDERSIDE OF CONCRETE FOOTING IS BELOW THE PROPOSED SANITARY AND STORM LATERAL INVERTS WHICH OUTLET TO BOOTH STREET. THE OWNER'S HOUSE DESIGNER IS AWARE OF THIS CONSTRAINT. THE DEVELOPER AND HIS HOUSE DESIGNER WILL MAKE INTERNAL HOUSE PUMPING PROVISIONS TO PUMP THE SANITARY BASEMENT SEWAGE UP TO THE SANITARY LATERAL FROM A SANITARY HOLDING TANK. THE PUMPING SYSTEM SHALL BE DESIGNED TO PUMP THE SEWAGE WITH THE STORM PIPE/WEEDING TILE DRAINAGE SYSTEM. THE HOUSE DESIGNER WILL MAKE PROVISIONS TO PUMP THE WEEPING TILE WATER UP FROM A SUMP AND/OR TANK COMPLETE WITH PUMPING SYSTEM TO THE GRAVITY STORM LATERAL. SEE LATEST REVISED ARCHITECTURAL PLANS FOR OUTLET LOCATION, DISCHARGE PIPE HEIGHT DETAILS, SEWAGE PIT/TANK SIZE AND PUMPING SYSTEM FOR THIS BUILDING. IT IS RECOMMENDED THAT THE SANITARY HOLDING TANK AND/OR STORMWATER HOLDING TANK BE OVERSIZED. A DUPLEX PUMPING SYSTEM SHALL BE IN THE WEEPING TILE AND SANITARY AND STORM TANKS.
  - b) THE HOUSE DESIGNER AND OWNER'S MECHANICAL ENGINEER SHALL ENSURE THAT SANITARY SEWAGE FLOW FROM FLOOR LEVELS ABOVE THE BASEMENT LEVEL SHALL BE DIRECTED AND OUTLETTED TO THE PROPOSED GRAVITY FLOW SANITARY LATERAL PIPE AND NOT INTO THE BASEMENT SEWAGE HOLDING TANK FOR PUMPING.
  - c) THE PROPOSED SANITARY HOLDING TANK AND PUMPING SYSTEM ARE FOR DRAINAGE OF BASEMENT FIXTURES AND FLOOR DRAINS AS PER HOUSE DESIGNER'S DRAWINGS IN ACCORDANCE WITH THE LATEST REVISED ONTARIO BUILDING CODE.

**DOUGLAS JAMES, MCIP, RPP**  
**MANAGER, DEVELOPMENT REVIEW - CENTRAL**  
**PLANNING, INFRASTRUCTURE & ECONOMIC**  
**DEVELOPMENT DEPARTMENT, CITY OF OTTAWA**

**APPROVED**  
By Jamesdo at 3:05 pm, Jun 14, 2019



DESIGN	T.L.M.	PROJECT
CHECKED	T.L.M.	
DRAWN BY	G.U.	
CHECKED	T.L.M.	DRAWING TITLE
APPROVED	T.L.M.	PROPOSED GRADING AND SERVING PLAN

360 BOOTH STREET  
PART OF LOTS 203 AND 204  
REGISTERED PLAN 14  
CITY OF OTTAWA

T.L. MAK ENGINEERING CONSULTANTS LTD. CONSULTING ENGINEERS			
PROJECT No.	DATE	DRAWING No.	
818-43	JULY 2018	G-1	

NO.	REVISION	DATE	BY
3	REVISED SERVICE LATERAL LOCATION AS PER HAMEL DESIGN'S COMMENTS OF JAN. 15, 2019	01/18/19	TLM
2	REVISED VEHICLE RAMP GRADIENTS PER HAMEL DESIGN'S COMMENTS OF JAN. 9, 2019	01/11/19	TLM
1	REVISIONS AS PER CITY'S REVISED COMMENTS RECEIVED ON DEC. 6, 2018	01/04/19	TLM